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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,570	04/03/2001	Christof Eberspacher	225/49834	8702

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EXAMINER
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SAVAGE, JASON L

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 07/01/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/824,570

Applicant(s)

EBERSPACHER ET AL.

Examiner

Jason L. Savage

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,16,18,20,22 and 56-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,16,18,20,22 and 56-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

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***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-5, 16, 18, 20, 22 and 56-59 are rejected under 35 U.S.C. 103(a) as unpatentable over Kawamura et al. (US 5,249,661).

Kawamura teaches a wear-resistant coating on a synchronizing ring formed by flame spraying (col. 2, ln. 24-28). The coating contains between 5-30% by weight of solid lubricating ceramic particles which may be oxides, carbides, or nitrides of elements such as Ti, Si, B, Al, Mn, Cu, Co, Ni, Na, Cr, W and V (col. 4, ln. 14-25). The porosity of the coating is between 5-30% (col. 4, ln. 51-60).

Regarding the limitation that the solid lubricant is permitted to be over 30% and up to 40%, Kawamura teaches that loadings of lubricants greater than 30 wt% may overexceed the abrasion of the object member (col. 4, ln. 30-35). Although Kawamura teaches that such a

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loadings within the claimed range is not desirable, all of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art even though the art teachings relied upon are phrased in terms of a non-preferred embodiment or even as being unsatisfactory for the intended purpose, *In re Boe*, 148 USPQ 507 (CCPA 1966); *In re Smith*, 65 USPQ 167 (CCPA 1945); *In re Nehrenberg*, 126 USPQ 383 (CCPA 1960); *In re Watanabe*, 137 USPQ 350 (CCPA 1963). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have permitted the solid lubricant content to be above 30 wt% since Kawamura teaches the use of solid lubricant contents about 30 wt%.

Regarding the limitation that the particle size be less than 180  $\mu\text{m}$ , Kawamura teaches that the particle sizes prior to spraying are -150 mesh and -250 mesh (approximately 99  $\mu\text{m}$  and 58  $\mu\text{m}$ , respectively).

Regarding claim 2, although Kawamura does not teach the specific solid lubricants which are claimed, it teaches that the solid lubricating ceramic particles may be oxides, carbides, or nitrides of elements such as Ti, Si, B, Al, Mn, Cu, Co, Ni, Na, Cr, W and V (col. 4, ln. 14-25). It is the position of the Examiner that the teaching that the particles may be an oxide of an element such as Ti is a teaching that the lubricant is  $\text{TiO}_2$  (col. 4, ln. 16-17). Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have selected an oxide of titanium or a nitride of boron as the lubricating particle since Kawamura states that they are suitable materials. Absent a teaching of the criticality of the claimed materials such as hexagonal boron nitride, it does not provide a patentable distinction over the prior art.

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Regarding claims 4 and 16, Kawamura teaches that the coating further includes a molybdenum alloy which may include elements such as Si and Ni (col. 3, ln. 56-59). Kawamura exemplifies that the molybdenum alloy contains Si and Ni (col. 5, ln. 67-68).

Regarding claims 56-59, Kawamura teaches that the porosity is between 5 to 30% (col. 4, ln. 51-60). A synchronizer ring of Kawamura having a porosity between 5 to 20% would meet the claim limitations.

#### ***Response to Arguments***

4. Applicant's arguments filed 6-17-03 have been fully considered but they are not persuasive.

Applicant argues that Kawamura does not meet the claim limitations that the solid lubricant content is permitted to be over 30% and up to 40% by weight. This argument is not persuasive since although Kawamura teaches that the use of lubricant loadings of greater than 30% is undesirable, the reference must be evaluated for what it fairly teaches one of ordinary skill in the art. Even though the art teaching relied upon is phrased in terms being unsatisfactory for the intended purpose, it is still considered a teaching of solid lubricant loadings of over 30 wt% and thus obviates the claims.

Applicant further argues that it is not clear if ceramic particles of molybdenum or molybdenum alloy would constitute solid lubricants. However, Applicant has not argued or


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shown why these particles would not be considered to be solid lubricants. Furthermore, Applicant is arguing a specific embodiment disclosed by the reference. Kawamura teaches that the ceramic particles may be oxides, carbides, or nitrides of elements such as Ti, Si, B, Al, Mn, Cu, Co, Ni, Na, Cr, W and V (col. 4, ln. 14-25). As was stated in the rejection above, it is the position of the Examiner that this teaching is either a teaching of solid lubricants or that it makes the use of solid lubricants such as titanium oxides or boron nitrides obvious.

5. Any inquiry to this communication or earlier communications from the Examiner should be directed to Jason Savage, whose telephone number is (703)305-0549. The Examiner can normally be reached Monday to Friday from 6:30 AM to 4:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Deborah Jones, can be reached on (703)308-3822.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703)308-2351.

  
DEBORAH JONES  
SUPERVISORY PATENT EXAMINER

Jason Savage

6-26-03